# UNITED STATES DISTRICT COURT DISTRICT OF MASSACHUSETTS

SINGULAR COMPUTING LLC,

Civil Action No. 1:19-cv-12551-FDS

Plaintiff,

Hon. F. Dennis Saylor IV

v.

GOOGLE LLC,

Defendant.

# PLAINTIFF'S PROPOSED FINAL JURY INSTRUCTIONS

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Ladies and gentlemen, each of you should have on your chair a copy of these jury instructions. You will recall at the beginning of the trial that I gave you some preliminary instructions. If these are inconsistent with those instructions, I do not think they are, these are what control, and the lawyers talked about the law somewhat in their closings. And, again, these are the instructions that will control your deliberations and verdict.

So, if you would please begin with me and read along as I read them aloud to you. You are free to write on these, and you can take them back with you into the jury room when you go to deliberate.

It is your duty to find the facts from the evidence admitted in this case. To those facts, you must apply the law as I give it to you. The determination of the law is my duty as the Judge. It is your duty to apply the law exactly as I give it to you, whether you agree with it or not.

In following my instructions, you must follow all of them and not single out some and ignore others. They are all important. You must not interpret these instructions, or anything I may have said or done, as a suggestion by me as to what verdict you should return. That is a matter entirely for you to decide.

# 1. BURDENS OF PROOF

A plaintiff ordinarily has the burden of proving its claim by what is called the "preponderance of the evidence."

The "preponderance of the evidence" means that for the party with the burden of proof to prevail, the jury must believe that what it claims is more likely true than not. To put it another way, if you were to put one side's evidence and the other side's evidence on opposite sides of the scale, the party with the burden of proof would have to make the scale tip slightly in its direction. On the issue of whether Google infringes Singular's patent(s), and whether it does so willfully, the burden of proof is the preponderance of the evidence.

In some instances, a party has the burden of proving a claim or defense by "clear and convincing" evidence, rather than by a "preponderance of the evidence." That means for the party with the burden of proof to prevail, it must persuade you that it is highly probable that what it claims is true. Put another way, you must have a clear conviction that it is true. "Clear and convincing evidence" is a higher standard than proof by a "preponderance of the evidence." It is a lower standard, however, than proof "beyond a reasonable doubt," which is the standard used in criminal cases. On the issue of whether Singular's patents are invalid, the burden of proof is clear and convincing evidence.

I will also explain later in these instructions which burden applies to each claim.

# 2. EVIDENCE AT TRIAL

As the finders of the facts, you are responsible for weighing the evidence in this case, including the testimony of the witnesses you have heard and the exhibits that have been introduced as evidence. Your verdict must be based solely upon the evidence. You may not base your verdict on any personal feelings, prejudices, or sympathies you may have about the plaintiff or the defendant or about the nature of the claims alleged.

This case should be considered and decided as an action between persons of equal standing in the community, of equal worth, and holding the same or similar stations in life. A corporation or other entity is entitled to a fair trial the same as an individual person.

The evidence in this case consists of the sworn testimony of witnesses, both on direct and cross-examination, the exhibits that have been received into evidence, and any facts to which the parties have agreed or stipulated. You should consider all of the evidence no matter what form it takes and no matter which party introduced it.

Whether a party has sustained its burden of proof does not depend upon the number of witness it has called or upon the number of exhibits it has offered, but instead upon the nature and quality of the evidence presented.

Certain things are not evidence. Arguments and statements by lawyers are not evidence. The lawyers are not witnesses. What they say in their opening statements, closing arguments, and at other times is intended to help you interpret the evidence, but it is not evidence. If the facts as you remember them from the evidence differ from the way the lawyers have stated them, your memory of the facts should control.

Questions by lawyers, standing alone, are not evidence. Again, the lawyers are not witnesses. The question and the answer taken together are the evidence.

Objections by lawyers are not evidence. Lawyers have a duty to their client to object when they believe a question or an exhibit is improper under the rules of evidence. You should not be influenced by any objection or by my ruling on it, and you should not speculate or guess about what the answer might have been, or what an exhibit might have said.

Anything that I have struck or instructed you to disregard is not evidence. And anything you may have seen or heard when the Court was not in session is not evidence. You must decide the case solely on the evidence received at trial.

Evidence may take the form of either "direct evidence" or "circumstantial evidence." "Direct evidence" is direct proof of a fact, such as testimony from an eyewitness that the witness saw something. "Circumstantial evidence" is indirect evidence. That is, proof of one or more facts from which you could draw a reasonable inference that another fact exists, even though it has not been proved directly.

You are entitled to consider both direct and circumstantial evidence. The law permits you to give equal weight to both. It is for you to decide how much weight to give to any particular piece of evidence, whether direct or circumstantial.

You are also permitted to draw reasonable inferences from the evidence, if you believe those inferences are justified in light of common sense and personal experience. An inference is simply a deduction or conclusions that may be drawn from the facts that have been established. Any inference you draw must be reasonable and based on the facts as you find them. For example, if you wake up in the morning and the streets outside are wet when the day before the weather was dry, you may reasonably infer that it rained during the night. The fact that rain occurred during the night can be inferred from the presence of water on the street. Inferences may not be based on speculation or conjecture.

A particular item of evidence is sometimes received for a limited purpose only. That is, it can be used by you only for one particular purpose and not for any other purpose. I have told you when that occurred and instructed you on the purposes for which the item can and cannot be used. Some of the evidence has been received in the form of stipulations. A stipulation simply means that the plaintiff and the defendant accept the truth of a particular proposition or fact or facts. Because there is an agreement, there is no need for evidence as to that issue apart from the stipulation. You may accept the stipulation as a fact to be given whatever weight you choose.

# 3. WITNESS CREDIBILITY

You do not have to accept the testimony of any witness if you find that the witness is not credible. You must decide which witnesses to believe, considering all of the evidence and drawing upon your common sense and personal experience. You may believe all of the testimony of a witness, or some of it, or none of it. You alone are the judges of the witnesses' credibility.

In deciding whether to believe testimony of the witnesses, you may want to take into consideration factors such as their conduct and demeanor while testifying, any apparent fairness or unfairness they may have displayed, any interest they may have in the outcome of the case, any prejudice or bias they may have shown, their opportunities for seeing or knowing the things about which they have testified, the reasonableness or unreasonableness of the events that they have related to you in their testimony, and any other evidence that tends to support or contradict their versions of the events.

The plaintiff Singular and the defendant Google presented video deposition testimony given under oath by a number of witnesses. You may consider that evidence in the same manner as testimony given in person at the trial.

The testimony of a witness may be discredited or impeached by showing that he or she previously made statements that are inconsistent with his or her present testimony. If a witness made inconsistent statements about any significant matter, you have a right to distrust the testimony of that witness in other respects. You may reject all of the testimony of that witness or give it such credibility as you may think it deserves.

Sometimes, of course, people make innocent mistakes, particularly as to unimportant details. Not every contradiction or inconsistency is necessarily important. Again, you, alone, are the judges of the witnesses' credibility.

# 4. EXPERT WITNESSES

You have heard testimony from persons who were permitted to explain certain technical issues or to express certain opinions about certain subjects. A witness who has special knowledge, skill, experience, training, or education on a particular topic may testify and provide an explanation or state an opinion concerning such matters. You may accept or reject that testimony in whole, or in part.

In weighing the testimony of these witnesses, you should consider the witnesses' education and experience and the soundness of the reasons given for the opinion. You should also consider the credibility of the testimony, as you would with any witness.

# 5. JUROR NOTES

As I indicated at the beginning of the trial, you have been permitted to take notes, but some cautions apply. You should bear in mind that not everything that is written down is necessarily what was said. When you return to the jury room to discuss the case, do not assume simply because something appears in somebody's notes that it necessarily took place in court. Notes are an aid to recollection, nothing more. The fact that something is written down in a juror's notes does not mean that it is necessarily accurate.

The numbers assigned to the exhibits are for convenience and in order to ensure an orderly procedure. You should draw no inference from the fact that a particular exhibit was assigned a particular number, or that there may be gaps in the number sequence.

# 6. PATENTS – GENERALLY

I will begin with some introductory instructions concerning patent claims.

Patents are granted by the United States Patent and Trademark Office (sometimes called "the Patent Office" or "the PTO").

The process of obtaining a patent is called patent "prosecution." To obtain a patent, the inventor must first file an application with the PTO. The PTO is an agency of the Federal Government and employs technical examiners who review applications for patents. If the application is granted, the PTO issues the patent.

A patent includes what is called a "specification," which must contain a written description of the claimed invention explaining what the invention is, how it works, how to make it, and how to use it.

A patent also includes what are called the "claims." The "claims" of a patent define the boundaries of its protection and give notice to the public of those boundaries. Put another way, the words of the claim define what a patent covers.

The coverage of a patent must be assessed claim by claim, and each claim is effectively treated as if it were a separate patent. Each claim may be narrower or broader than another claim by setting forth more or fewer requirements. Therefore, what a patent covers depends, in turn, on what each of its claims covers.

When another party makes a product that falls within the scope of a patent claim, that product infringes on the patent. The patent holder can bring suit to enforce its patent rights to stop the infringement.

Instructions  $\$  B.2.2.1 (2020); Am. Intellectual Property Law Assoc. ("AIPLA") Model Patent Jury Instructions  $\$  V.3.0 (2019).

# 7. CLAIM CONSTRUCTION

It is my role to define the terms of the claims, and it is your role to apply any definitions to the issues that you are asked to decide in this case. For purposes of this case, you must use the following definition:

The term "execution unit" means a "processing element comprising an arithmetic circuit paired with a memory circuit."

For the words in the claims for which I have not provided you with a definition, you should apply their common meaning as it would be understood by a person of ordinary skill in the art at the time of the invention. You should not take my definition of the language of the claims as an indication that I have a view regarding how you should decide the issues that you are being asked to decide. Those issues are for you to decide.

**Authority:** Adapted from Charge to the Jury, *SiOnyx v. Hamamatsu Photonics K.K.*, No. 1:15-cv-13488-FDS (D. Mass. May 14, 2019); Charge to the Jury, *Exergen Corp. v. Kaz USA, Inc.*, No. 1:13-cv-10628-RGS (D. Mass. Feb. 10, 2016); FED. CIR. BAR ASSOC. MODEL PATENT JURY INSTRUCTIONS § B.2.2.1 (2020); AIPLA MODEL PATENT JURY INSTRUCTIONS § V.3.0 (2019).

# 8. CONTENTIONS OF THE PARTIES

The plaintiff is Singular Computing LLC. The defendant is Google LLC. Singular has brought two claims for patent infringement against Google, and also asserts that Google's infringement has been willful. Singular requests an award of damages caused by Google's infringement.

Google denies liability as to Singular's claims of infringement, and asserts that Singular's claims are barred because the patents' claims are invalid.

I will now explain what the parties have to prove in order to succeed on their various claims and defenses.

# 9. SINGULAR'S CLAIMS

# A. INFRINGEMENT

Singular contends that Google infringes the '273 patent and the '156 patent. Specifically, Singular contends that Google has infringed claim 53 of the '273 patent and claim 7 of the '156 patent by making and using the Tensor Processing Unit, or "TPU", versions 2 and 3. Google does not have to have infringed both patents to be liable for infringement. You must determine infringement with respect to each claim individually. Google denies infringement and further contends that those claims are invalid.

To prove its claims for patent infringement, Singular must prove each of the following by a preponderance of the evidence:

- 1. That Google made or used a product that includes all of the elements of claim 53 of the '273 patent or claim 7 of the '156 patent, or both; and
- 2. That the infringing product was made, sold, offered for sale, imported into, and/or used in the United States after the date that the relevant patent was issued. The '273 patent was issued on March 26, 2013 and the '156 patent was issued on December 22, 2015.

Knowledge and intent are not required for patent infringement to occur. Google can infringe the '273 patent or the '156 patent even if it did not act intentionally. Google can likewise infringe even if it did not know that the '273 patent and the '156 patent existed, or if it believed in good faith that it was not infringing either patent. You may find infringement even if none of Google's employees knew that they were infringing either patent.

To determine infringement, you must compare the accused Google products with each of the two asserted claims—claim 53 of the '273 patent and claim 7 the '156 patent. You must not compare the accused products with Singular's S1 or S2 designs, the prior art, or any other product.

**Authority:** Adapted from Charge to the Jury, *SiOnyx v. Hamamatsu Photonics K.K.*, No. 1:15-cv-13488-FDS (D. Mass. May 14, 2019); Charge to the Jury, *Exergen Corp. v. Kaz USA, Inc.*, No. 1:13-cv-10628-RGS (D. Mass. Feb. 10, 2016); FED. CIR. BAR ASSOC. MODEL PATENT JURY INSTRUCTIONS § B.3.1 (2020); AIPLA MODEL PATENT JURY INSTRUCTIONS § V.3.0 (2019); *Contentguard Holdings, Inc. v. Google, Inc.*, 701 Fed. Appx. 963, 966-67 (Fed. Cir. 2017).

#### **B.1. WILLFUL INFRINGEMENT**

If you have decided that Google has infringed either or both of claim 53 of the '273 patent and claim 7 the '156 patent, you must go on and address the issue of whether or not this infringement was willful.

To prove willful infringement, Singular must persuade you by a preponderance of the evidence, meaning that it is more likely than not, that Google had knowledge of one or both of Singular's patents and infringed one or both patents deliberately or intentionally. You may consider whether Google acted wantonly, maliciously, or in bad faith.

In determining whether Google's infringement was willful, you must consider all of the facts and circumstances to assess Google's knowledge and intent at the time the infringement occurred. Factors you may consider in determining whether infringement was deliberate or intentional include, but are not limited to, the following:

- Whether or not Google was willfully blind to the existence of one or both patents or that its actions constituted infringement;
- Whether Google copied the claimed invention or a product of Singular's that is covered by one or both patents;
- Whether or not Google reasonably believed it did not infringe;
- Whether Google made a good faith effort to avoid infringement;
- Whether Google attempted to cover-up its infringement; and
- Whether or not Google acted consistently with the standards of behavior for its industry;

If you determine that any infringement was willful, you may not allow that decision to affect the amount of any damages award you give for infringement. It is my job to decide whether or not to award increased damages to Singular.

**Authority:** Adapted from 35 U.S.C. § 284; *Halo Elecs., Inc. v. Pulse Elecs., Inc.*, 579 U.S. 93, 103-07 (2016); *Eko Brands LLC v. Adrian Rivera Maynez Enters., Inc.*, 946 F.3d 1367, 1378 (Fed. Cir. 2020); *Arctic Cat Inc. v. Bombardier Recreational Prods. Inc.*, 876 F.3d 1350, 1371 (Fed. Cir. 2017); Charge to the Jury in *SiOnyx v. Hamamatsu Photonics K.K.*, No. 1:15-cv-13488-FDS (D. Mass. May 14, 2019); Fed. Cir. Bar Assoc. Model Patent Jury Instructions § B.3.3.10 (2020); AIPLA Model Patent Jury Instructions § V.11 (2019).

# **B.2. WILLFUL BLINDNESS**

Google cannot claim lack of knowledge as a defense to Singular's claim for willful infringement if it purposefully avoided learning of certain facts or circumstances giving rise to the legal claim. We call this "willful blindness." A willfully blind defendant is considered to have actual knowledge of the critical facts or circumstances giving rise to the legal claim.

A defendant is willfully blind to the facts or circumstances giving rise to a plaintiff's legal claim if it should have known that there was a high probability that the facts or circumstances existed and deliberately avoided learning of or confirming their existence. Put simply, willful blindness is an allegation that Google should have known of Singular's patents or that it infringed one or both of them, but took deliberate steps to ignore the patents. You may consider whether Google had an internal policy that prohibits its employees from reviewing third-party patents, like Singular's, which can be evidence of willful blindness.

**Authority:** Adapted from *Global-Tech Appliances, Inc. v. SEB S.A.*, 563 U.S. 754, 766-68 (2011); *Straight Path IP Grp., Inc. v. Apple Inc.*, No. C 16-03582 WHA, 2017 WL 3967864, at \*4 (N.D. Cal. Sept. 9, 2017), *aff'd*, 748 F. App'x 1027 (Fed Cir. 2019) (Mem); *Motiva Patents v. Sony Corp., HTC Corp.*, 408 F. Supp. 3d 819, 836-38 (E.D. Tex. 2019); *Corephotonics, Ltd. v. Apple, Inc.*, Nos. No. 17-CV-06457-LHK and 18-CV-02555-LHK, 2018 WL 4772340, at \*9-10 (N.D. Cal. Oct. 1, 2018); *Ansell Healthcare Prods. LLC v. Reckitt Benckiser LLC*, No. 15-cv-915-RGA, 2018 WL 620968, at \*6-8 (D. Del. Jan. 30, 2018); Charge to Jury in *KPM Analytics N. Am. Corp. v. Blue Sun Scientific LLC*, No 21-10572-MRG (D. Mass. May 16, 2023).

#### B.3. KNOWLEDGE AND ACTS OF A COMPANY DEFENDANT

The defendant Google is a limited liability company. Limited liability companies are artificial persons created by law that have the same rights as a natural person to do business, to make contracts, and to own property. When considering what a company party knew, keep in mind that a company can only acquire knowledge or a state of mind through its people—its controlling principals, employees, and agents. A company is therefore charged with the knowledge of all facts that those people knew or should have known, while they were acting in the course of their jobs, and within the scope of their particular authority for that corporation. You are to decide what in your judgment the defendant, as a business entity, knew or should have known about the facts giving rise to the plaintiff's claims.

Limited liability companies can only act through their human agents—that is, their employees, officers, directors, and agents. A limited liability company is responsible for the acts of its employees, officers, directors, and agents performed within the scope of their authority. Such a person is acting within the scope of his or her authority if the person is engaged in the performance of duties that were expressly or implicitly assigned to the person by the limited liability company.

As intent cannot ordinarily be proved directly because there is no way to look inside a person's mind, Google's state of mind must be determined by its knowledge, statements, and actions. That is, by what it says or does, or what it does not say or do, and by the surrounding facts and circumstances."

**Authority:** Adapted from Charge to Jury in *Benchmark Techs. Inc. v. Yuqiang (Richard) Tu, et al*, No. 22-10227-LTS (D. Mass. Feb. 10, 2023); Charge to Jury in *KPM Analytics N. Am. Corp. v. Blue Sun Scientific LLC*, No 21-10572-MRG (D. Mass. May 16, 2023).

# 10. GOOGLE'S DEFENSES

Google contends that claim 53 of the '273 patent and claim 7 of the '156 patent are invalid for two separate reasons. Those reasons are as follows: First, Google asserts that the claims were anticipated by the prior art. Second, Google argues that the claims would have been obvious in light of the prior art.

A patent issued by the PTO is presumed to be valid. In order to rebut the presumption that a patent claim is valid, Google must prove the patent claim is invalid by clear and convincing evidence, meaning Google must leave you with a clear conviction that the patents are invalid.

That presumption of validity applies to each claim independent of the validity of the other claims. You must consider the validity of each claim separately. As to each claim, if you find that Google has proved by clear and convincing evidence that the claim is invalid for any of the asserted reasons, you should find for Google as to that claim.

I will instruct you on each of the reasons that Google contends that the asserted claims are invalid and explain what Google must establish by clear and convincing evidence to succeed on each issue.

There are two terms relating to Google's invalidity defenses that I will define at the outset.

The first term is "prior art." In patent law, a person is entitled to a patent only if the invention claimed in the patent is new and not obvious in light of what came before it, what is referred to as the "prior art."

In this case, Google contends that the prior art includes the VFLOAT system as well as other publications, patents and documents that Google contends disclose the claimed invention or elements of the claimed invention.

To be prior art, the item must have been made, known, used, published, or patented before the invention was made. The date of invention for claim 53 of the '273 and for claim 7 of the '156 patent is June 19, 2009.

The second term is "person of ordinary skill in the art." In patent law, a number of issues turn on how a "person of ordinary skill in the art" would consider or interpret a particular set of facts. The question of invalidity of a patent claim is determined from the perspective of a person of ordinary skill in the art in the field of the asserted invention as of June 2009.

You must determine the level of ordinary skill in the field of the invention. The higher the level of ordinary skill, the easier it may be to establish that an invention would have been obvious. Persons having a greater level of education, training, or experience in the field will more readily appreciate technical details that may be more challenging for persons having a lower level of skill. On the other hand, persons having a lower level of skill may not perceive as obvious technical details that would be apparent to persons having greater skill. In order to determine the obviousness of the invention you will be asked to determine what the ordinary level of skill was in the field of the invention. You must consider and assess this factor before reaching your conclusion in this case.

**Authority**: 35 U.S.C. §§ 101, 102, and 103; Adapted from; Charge to the Jury, *SiOnyx v. Hamamatsu Photonics K.K.*, No. 1:15-cv-13488-FDS (D. Mass. May 14, 2019); *Charge to the Jury, Exergen Corp. v. Kaz USA, Inc.*, No. 1:13-cv-10628-RGS (D. Mass. Feb. 10, 2016); AIPLA MODEL PATENT JURY INSTRUCTIONS § 5.5.3 (2019).

#### A. ANTICIPATION/PUBLIC KNOWLEDEGE/PUBLIC USE

The second issue regarding validity is whether the claimed inventions were "anticipated." A person cannot obtain a patent on an invention if someone else has already made the same invention. If an invention is not new, we say that it is "anticipated" by the prior art. An invention that is anticipated by the prior art is not entitled to patent protection. In order to prevail on the issue of anticipation, Google must prove by clear and convincing evidence that claim 53 of the '273 patent and claim 7 of the '156 patent are anticipated by the prior art.

Google contends that claim 53 of the '273 patent and claim 7 of the '156 patent are invalid because the claimed inventions are anticipated by the VFLOAT system that Google alleges was made and used before June 19, 2009. Google must prove by clear and convincing evidence that the VFLOAT system was publicly known and used before June 19, 2009 and that the system included all of the claim elements arranged as set forth in the claims. If you find that any claim element was missing from the VFLOAT system or its components were not arranged as in the claims, there can be no anticipation. Google must also show by clear and convincing evidence that the VFLOAT system was enabling, such that one of ordinary skill in the art could use it to practice the inventions recited in the asserted claims without undue experimentation.

If, however, the VFLOAT system was abandoned, suppressed or concealed, it does not anticipate the asserted claims of the '273 and '156 patents as a prior invention. You may find that the VFLOAT system was abandoned, suppressed or concealed if you find that:

- 1. The designers of the VFLOAT system concealed the system from the public; or
- The designers of the VFLOAT system unreasonably delayed in making the system publicly known; or the designers of the VFLOAT system failed to file a patent application for the system.

Google must provide corroborating evidence to prove its claim of anticipation. That means that Google must provide other evidence that corroborates the testimony of Dr. Leeser regarding the VFLOAT system. The testimony of a single witness alone is insufficient to prove anticipation by clear and convincing evidence.

**Authority:** 35 U.S.C. § 102; adapted from *Minn. Min. & Mfg. Co. v. Chemque, Inc.*, 303 F.3d 1294, 1301 (Fed. Cir. 2002); *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1548 (Fed. Cir. 1983); *New Idea Farm Equip. Corp. v. Sperry Corp.*, 916 F.2d 1561, 1566-67 (Fed. Cir. 1990); *Mycogen Plant Science v. Monsanto Co.*, 243 F.3d 1316, 1332 (Fed. Cir. 2001); *Kimberly-Clark Corp. v. Johnson & Johnson*, 745 F.2d 1437, 1445 (Fed. Cir. 1984); *Dow Chem. Co. v. Astro-Valcour, Inc.*, 267 F.3d 1334, 1339, 1341-42 (Fed. Cir. 2001); *Finnigan Corp. v. Intern. Trade Com'n*, 180 F.3d 1354, 1367-70 (Fed. Cir. 1999); *Kolcraft Eterprises, Inc. v. Graco Childrens; Prods., Inc.*, 927 F.3d 1320, 1325 (Fed. Cir. 2019); AIPLA MODEL PATENT JURY INSTRUCTIONS § V.6 (2019).

#### **B.1.** OBVIOUSNESS

Google's final basis for arguing invalidity issue is whether the claimed invention would have been "obvious." The claimed invention must not have been "obvious" to a person or ordinary skill in the art at the time the patent application was filed, which is on June 19, 2009. Google contends that the inventions described in claim 53 of the '273 patent and claim 7 of the '156 patent would have been obvious to one of ordinary skill in the art on June 19, 2009. As with anticipation, Google has the burden of proving obviousness by clear and convincing evidence.

Google contends that the asserted claims are obvious in view of the following combinations of prior art:

- 1. The VFLOAT system disclosures and the knowledge of one of ordinary skill in the art;
- Public knowledge of the VFLOAT system and the knowledge of one of ordinary skill in the; and
- 3. The VFLOAT system and the Tong article;

In determining whether a claimed invention would have been obvious, you must consider the level of ordinary skill in the art that someone would have had at the time when the patent application was filed, the scope and content of the prior art, and any differences between the prior art and the claimed invention.

Because obviousness is to be determined as of the time that the patent application was filed, you must avoid using hindsight. That is, you should consider only what was known at the time, not what we know today. Likewise, you should not consider what was learned from the teachings of the patent and you should not use the patent as a road map for selecting and combining items of prior art. You must put yourself in the place of a person of ordinary skill in the art at the time the patent application was filed.

**Authority:** 35 U.S.C. § 103; adapted from Charge to the Jury, *SiOnyx v. Hamamatsu Photonics K.K.*, No. 1:15-cv-13488-FDS (D. Mass. May 14, 2019); Charge to the Jury, *Exergen Corp. v. Kaz USA, Inc.*, No. 1:13-cv-10628-RGS (D. Mass. Feb. 10, 2016); *Graham v. John Deere Co.*, 383 U.S. 1, 17-20 (1966); *Amgen Inc. v. Sandoz Inc*, 66 F. 4th 952 (Fed. Cir. 2023); *Endo Pharms. Inc. v. Actavis LLC*, 922 F.3d 1365 (Fed. Cir. 2019); AIPLA MODEL PATENT JURY INSTRUCTIONS § V.7 (2019).

#### **B.2.** OBVIOUSNESS CONSIDERATIONS

In determining whether the claimed invention was obvious, you must, among other things, determine the scope and content of the prior art. Determining the scope and content of the prior art means that you should determine what is disclosed in the prior art relied on by Google. You must also decide whether or not the prior art was reasonably relevant to the particular problem the inventor was attempting to solve in making the invention covered by the patent claims. Such relevant prior art includes prior art in the field of the invention and from other fields that a person of ordinary skill in the art would look to when attempting to solve the problem.

In determining the differences between the invention covered by the patent claims and the prior art, you should not look at individual differences in isolation. You must consider the claimed invention as a whole and determine whether or not it would have been obvious in light of all of the prior art.

The existence of every element of the claimed invention in the prior art does not necessarily prove that the claimed invention was obvious because most, if not all, inventions rely on building blocks of prior art. You should keep in mind that there must be some motivation or suggestion for a skilled person to combine pieces of the prior art.

You should also consider whether someone reading the prior art would be discouraged from following the path taken by the inventor. In making that determination, you must take into account such factors as the following:

- Whether the claimed invention was merely the predictable result of using prior art elements according to their known functions;
- Whether the claimed invention provides an obvious solution to a known problem in the relevant field;

- Whether the prior art teaches or suggests the desirability of combining elements claimed in the invention;
- Whether the prior art teaches away from combining elements claimed in the invention;
- Whether there was a design need or market pressure to solve a problem and there were
   a finite number of identified predictable solutions; and
- Whether the change resulted more from design incentives or other market forces.

To find that it rendered the invention obvious, you must find that the prior art provided a reasonable expectation of success. The fact that an invention with combined elements found in existing prior art was "obvious to try," without some expectation of success, is not sufficient to render that invention obvious.

You must also consider evidence that the claimed inventions were not obvious. This includes the following:

- Whether there was any praise for the invention by others in the industry;
- Whether the claimed inventions provided a solution to long-felt but unsolved needs;
- Whether others had tried but failed to come up with the solution provided by the claimed inventions;
- Whether others were skeptical that the claimed inventions would work;
- Whether there is evidence that anyone copied the invention;
- Whether the claimed inventions were commercially successful;
- Whether the invention provided unexpected results.

You have heard testimony concerning Singular's development of the invention claimed in the patent. This testimony provides evidence and context for your decision relevant to the issue of priority invention. However, because the people who make an invention are not considered persons of ordinary

skill in the art, but are instead presumed inventors, you may not base a decision of obviousness on the manner in which Singular's inventor made the invention.

**Authority:** Adapted from *Graham v. John Deere Co.*, 383 U.S. 1, 17-20 (1966); *Amgen Inc. v. Sandoz Inc*, 66 F. 4th 952 (Fed. Cir. 2023); *Endo Pharms. Inc. v. Actavis LLC*, 922 F.3d 1365 (Fed. Cir. 2019); *Liqwd, Inc. v. L'Oreal USA, Inc.*, 941 F.3d 1133, 1136-39 (Fed. Cir. 2019); Charge to the Jury, *SiOnyx v. Hamamatsu Photonics K.K.*, No. 1:15-cv-13488-FDS (D. Mass. May 14, 2019); Charge to the Jury, *Exergen Corp. v. Kaz USA, Inc.*, No. 1:13-cv-10628-RGS (D. Mass. Feb. 10, 2016); AIPLA MODEL PATENT JURY INSTRUCTIONS § V.7 (2019).

#### 11. DAMAGES GENERALLY

If you find that Google has infringed either or both claim 53 of the '273 patent and claim 7 of the '156 patent, you must determine the amount of damages to be awarded Singular for the infringement. The damages you award must be adequate to compensate Singular for the infringement.

Singular must establish the amount of its damages by a preponderance of the evidence, meaning you should award those damages that Singular establishes that it more likely than not has suffered. The law does not require that Singular prove or calculate its damages with mathematical precision, only reasonable certainty. You must calculate damages with a reasonable degree of certainty in light of the evidence and reasonable inferences supported by the evidence.

Any doubts that you may have on the issue of damages due to Google's failure to keep proper records should be resolved in favor of Singular. Any confusion or difficulties caused by Google's record-keeping should also be resolved against Google, not Singular.

If you award damages, those damages may only be for the purposes of compensation to Singular. You are not permitted to award any damages for the purpose of punishing Google, or to deter other defendants from similar behavior. You should not include in any award any compensation for attorney's fees, court costs, expenses or interest on the award.

**Authority:** Adapted from Charge to the Jury, *SiOnyx v. Hamamatsu Photonics K.K.*, No. 1:15-cv-13488-FDS (D. Mass. May 14, 2019); Charge to the Jury, *Exergen Corp. v. Kaz USA, Inc.*, No. 1:13-cv-10628-FDS (D. Mass. Feb. 10, 2016); AIPLA MODEL PATENT JURY INSTRUCTIONS § V.10.10 (2019); FED. CIR. BAR. ASSOC. MODEL PATENT JURY INSTRUCTIONS § B.5.1 (2020).

# A. DAMAGES CALCULATION – REASONABLE ROYALTY

Singular seeks a reasonable royalty as its damages caused by Google's infringement. A royalty is a payment made to a patentholder, such as Singular, in exchange for the right to make, use, or sell the claimed invention. A reasonable royalty is defined as the amount of money that Singular and Google would have agreed upon as a fee for use of the invention at the hypothetical negotiation that takes place just prior to when infringement began.

The Parties agree that the hypothetical negotiation in this case would have occurred in March 2017. As a result, damages in this case should be awarded for the period beginning March 1, 2017, through the expiration of the patents.

In considering this hypothetical negotiation, you should focus on what the expectations of Singular and Google would have been had they entered into an agreement at that time, and had they acted reasonably in their negotiations. In determining this, you must assume that both parties believe the patent was valid and infringed, and that Singular and Google were willing to enter into an agreement.

The reasonable royalty you determine must be a royalty that would have resulted from a hypothetical negotiation and not simply a royalty either party would have preferred. In determining a reasonable royalty, you may also consider evidence of things that happened after infringement began and were not known at the time of the negotiation, such as how often Google actually used the accused products.

**Authority:** Adapted from Charge to the Jury, *SiOnyx v. Hamamatsu Photonics K.K.*, No. 1:15-cv-13488-FDS (D. Mass. May 14, 2019); Charge to the Jury, *Exergen Corp. v. Kaz USA, Inc.*, No. 1:13-cv-10628-FDS (D. Mass. Feb. 10, 2016); AIPLA MODEL PATENT JURY INSTRUCTIONS § V.10.2.5.1 (2019).

В. **REASONABLE ROYALTY – LUMP SUM** 

In this case, the parties have agreed that the reasonable royalty they would have agreed upon

would have been in the form of a one-time lump-sum payment from Google to Singular. A lump sum

payment is equal to the amount that Google would have paid to Singular at the time of the hypothetical

negotiation for a license covering all use by Google, both past and future, of the accused products in

the United States.

Authority: Fed. Cir. Bar. Assoc. Model Patent Jury Instructions § B.5.5.7 (2020).

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# C. DAMAGES – REASONABLE ROYALTY – COST SAVINGS

When determining the reasonable royalty the parties would have agreed to at the hypothetical negotiation, you may consider whether infringement allowed Google to avoid taking a different, more costly course of action. The amount of the reasonable royalty may appropriately be based on consideration of the costs and availability of non-infringing alternatives and the potential infringer's cost savings.

**Authority**: *Prism Technologies LLC v. Spring Spectrum L.P.*, 849 F.3d 1360, 1376 (Fed. Cir. 2017) ("[The] requirement [that a patentee tie proof of damages to the footprint of the invention in the market place] can be met if the patentee adequately shows that the defendant's infringement allowed it to avoid taking a different, more costly course of action. A price for a hypothetical license may appropriately be based on consideration of the 'costs and availability of non-infringing alternatives' and the potential infringer's 'cost savings.'").

# D. DAMAGES – NON-INFRINGING ALTERNATIVES NOT IN MARKETPLACE AT TIME OF THE HYPOTHETICAL NEGOTIATION – BURDEN OF PROOF

In this case, Google relies on non-infringing alternatives that were not in the marketplace at the time of the hypothetical negotiation. As the alleged infringer and proponent of those non-infringing alternatives, Google has the burden of showing by a preponderance of the evidence that any non-infringing alternatives were both available to it and were acceptable to it during the damages period.

As I explained a few moments ago, the damages period is March 1, 2017, through the expiration of the patents-in-suit.

**Authority:** *Grain Processing Corp. v. Am. Maize-Prod. Co.*, 185 F.3d 1341, 1353 (Fed. Cir. 1999); *Micro Chem., Inc. v. Lextron, Inc.*, 318 F.3d 1119, 1122 (Fed. Cir. 2003); AIPLA MODEL PATENT JURY INSTRUCTIONS § V.10.2.1.4 (2019).

# E. DAMAGES - NON-INFRINGING ALTERNATIVE - ACCEPTABILITY

To be an acceptable non-infringing alternative, the alternative product must be shown not to infringe either the '273 patent or the '156 patent. To be deemed acceptable, an alleged non-infringing alterative must have the advantages of the patented invention and provide the infringer the same benefit as the accused product.

**Authority:** AIPLA MODEL PATENT JURY INSTRUCTIONS § V.10.2.1.4 (2019); *Hanson v. Alpine Valley*, 718 F.2d 1075, 1080-81 (Fed. Cir. 1983); *Standard Havens Prods., Inc. v. Gencor Indus., Inc.*, 953 F.2d 1360, 1373 (Fed. Cir. 1991); *Kaufman Co. v. Lantech, Inc.*, 926 F.2d 1136, 1142 (Fed. Cir. 1991); *Tyco Healthcare Grp. LP v. Applied Med. Resources Corp.*, 2009 WL 10676782, at \*3 (E.D. Tex. Mar 31, 2009); *Laser Dynamics v. Quanta*, 2011 WL 197869, at \*3; *Micro Chem, Inc. v. Lextron, Inc.*, 318 F.3d 1119, 1123 (Fed. Cir. 2003); *Smart Skins LLC v. Microsoft Corp.*, No. C15-544, 2016 WL 4148091, at \*2 (W.D. Wash. Jul. 1, 2016); *see also SPEX Techs. v. Apricorn, Inc.*, No. CV 16-07349, 2020 WL 1289546, at \*2 (C.D. Cal. Jan. 21, 2020).

# F. DAMAGES – NON-INFRINGING ALTERNAITVE – AVAILABILITY

A non-infringing alternative that is not in the marketplace at the time of the hypothetical negotiation may nevertheless be considered "available" at the time of the hypothetical negotiation. To establish the availability of such a non-infringing alternative, Google must prove by a preponderance of the evidence that it had the material, resources, experience, and know-how to make or use the alleged alternative such that it was "readily available" at the time of the hypothetical negotiation.

Factors suggesting that the alternative was "readily available" include whether the infringer could quickly use the non-infringing alternative. Factors suggesting that the alternative was not "readily available" at the time of the hypothetical negotiation include whether the alleged infringer had to design or invent around the patented technology to develop an alleged alternative and the amount of time it would take the alleged infringer to put the alleged alternative into operation. If, despite the infringer's know-how, experience, material and resources, it would take months to implement the non-infringing alternative, the alleged alternative is not "readily available."

**Authority**: AIPLA MODEL PATENT JURY INSTRUCTIONS § V.10.2.1.4 (2019); *Grain Processing Corp. v. Am. Maize-Prods. Co.*, 185 F.3d 1341, 1349 (Fed. Cir. 1999) (holding that a non-infringing alternative not in the marketplace was nevertheless available because the alleged infringer put it to use within a few weeks); *Micro Chem., Inc. v. Lextron, Inc.*, 318 F.3d 1119, 1123 (Fed. Cir. 2003) (finding alternative was not readily available because the accused infringer expended 984 hours to design the non-infringing alternative, another 330 to test it, that one of its engineers worked on the design full-time for several months, and that it took another two months to convert all of the infringing machines to non-infringing machines).

# G. REASONABLE ROYALTY – RELEVANT FACTORS

In determining the reasonable royalty, you should consider all the facts known and available to the parties at the time the infringement began and facts concerning Google's actual use of the accused products after the date of the hypothetical negotiation. Some of the kinds of factors that you may consider in making your determination are:

- The amount of cost savings realized by Google as a result of its use of the accused Google chips;
- The nature and scope of the license as exclusive or nonexclusive, or as restricted or nonrestricted, in terms of territory or with respect to whom the manufactured product may be sold. In this case, the parties have agreed that the license would be on a nonexclusive basis;
- Whether Singular has a policy of not licensing others to use the invention or by granting licenses under special conditions designed to preserve Singular's exclusivity;
- The commercial relationship between Singular and Google, such as whether they are competitors in the same territory in the same line of business;
- The effect of selling the patented specialty in promoting Google's sales of other products and services;
- The duration of the asserted patents and the terms of the license. In this case, the duration of the '273 patents ends on June 14, 2029, and the duration of the '156 patent ends on March 19, 2029;
- The established profitability of the product made under the patents, its commercial success, and its current popularity;

- The utility and advantages of the patented invention over the old technology, if any, that had been used for working out similar results;
- The nature of the patented invention, the character of the commercial embodiment of
  it as owned and produced by the licensor, and the benefits to those who have used the
  invention;
- The extent to which Google has made use of the invention and any evidence probative of the value of that use;
- The portion of the profit or of the selling price that may be customary in the particular business or in comparable business to allow for the use of the invention or analogous inventions;
- The portion of the realizable profits that should be credited to the invention as
  distinguished from non-patented elements, the manufacturing process, business risks,
  or significant features, or improvements added by the infringer;
- The opinion and testimony of qualified experts regarding a reasonable royalty; and
- The amount that Singular and Google would have agreed upon at the time the infringement began if both had been reasonably and voluntarily trying to reach an agreement; that is, the amount that both a prudent licensee would have been willing to pay as a royalty while still making a reasonable profit and would have been acceptable by a prudent patentee who was willing to grant a license.

No one factor is dispositive. You may consider the evidence that has been presented to you in this case on each of these factors. You may also consider any other factors which in your mind would have increased or decreased the royalty Google would have been willing to pay and Singular would have been willing to accept, acting as a normally prudent business people.

**Authority:** Adapted from Charge to the Jury, *SiOnyx v. Hamamatsu Photonics K.K.*, No. 1:15-cv-13488-FDS (D. Mass. May 14, 2019); Charge to the Jury, *Exergen Corp. v. Kaz USA, Inc.*, No. 1:13-cv-10628-FDS (D. Mass. Feb. 10, 2016); *Georgie-Pacific Corp. v. U.S. Plywood Corp.*, 318 F. Supp. 1116, 1120 (S.D.N.Y. 1970); *Hanson v. Alpine Valley Ski Area, Inc.*, 718 F.2d 1075, 1080-81 (Fed. Cir. 1983); *Prism Techs. LLC v. Sprint Spectrum L.P.*, 849 F.3d 1360, 1375-77 (Fed. Cir. 2017); *Smart Skins LLC v. Microsoft Corp.*, 2016 WL 4148091, at \*2 (W.D. Wash. Jul. 1, 2016); *Laser Dynamics, Inc. v. Quanta Computer, Inc.*, 2011 WL 197869, at \*3 (E.D. Tex. Jan. 20, 2011) AIPLA MODEL PATENT JURY INSTRUCTIONS § V.10.2.5.3. (2019).

# H. DAMAGES – APPORTIONMENT

When damages must be apportioned, the amount you find as damages must be based on the value of the patented invention as a whole incorporated into the accused products, as compared with the unpatented features that may be found in the accused products. In this regard, apportionment does not limit the amount of damages to one or two features of the patent invention. If infringement has been proved, Singular is entitled to recover damages based on the use of all the claimed elements of the invention. The fact that one or more elements of the asserted claims were allegedly known in the prior art does not limit the amount of damages that Singular is entitled to recover.

**Authority:** FED. CIR. BAR. ASSOC. MODEL PATENT JURY INSTRUCTIONS § B5.5.12 (2020); Memorandum and Order on Motions to Exclude Expert Testimony, Dkt. No. 665, pp. 6-9.

# 12. **DELIBERATIONS**

I come now to the last part of the instructions, the rules for your deliberations.

When you retire, you will discuss the case with the other jurors to reach agreement if you can do so. You shall permit your foreperson to preside over your deliberations, and your foreperson will speak for you here in court. Your verdict as to each claim must be unanimous. -- that is, all of you must agree on the verdict.

Each of you must decide the case for yourself, but you should only -- you should do so only after considering all of the evidence, discussing it fully with the other jurors, and listening to the views of the other jurors.

Do not be afraid to change your opinion if you think you are wrong, but do not come to a decision simply because other jurors think it is right.

It is important that you reach a verdict if you can do so conscientiously. You should not hesitate to reconsider your views from time to time and to change them if you are persuaded that this is appropriate. It is important that you attempt to return a verdict, but, of course, only if each of you can do so after having made your own conscientious determination. Do not surrender an honest conviction as to the weight and effect of the evidence simply to reach a verdict.

I want to explain to you now what is called the verdict form. This is simply the written notice of the decision you will reach in this case. It has the case caption. It says "Verdict Form." It has multiple sections beginning with infringement, followed by validity and then damages.

There are various questions you are going to be asked. For example, as to the claims for infringement and validity, you will either find for Singular or Google. If you do find for Singular, then you should put in the amount of damages.

After you have reached a unanimous agreement on a verdict, your foreperson will fill in the form that has been given to you and will then sign and date it. That is the last page of the Verdict Form. There is a place for the foreperson to sign and date the form, and the foreperson will then advise the jury officer outside your door that you are ready to return to the courtroom.

After you return to the courtroom, your foreperson will deliver the completed verdict form as directed in open court.

If it becomes necessary during your deliberations to communicate with me, you may send out, through the jury officer, a note signed by your foreperson, or by one or more members of the jury. No member of the jury should ever attempt to communicate with me on anything concerning the case except by a signed writing. I will communicate with any member of the jury on anything concerning the case only in writing or orally here in open court.

If you send out a question, I will consult with the parties as promptly as possible before answering it, which may take some time. You may continue with your deliberations while waiting for the answer to any question.

While you are communicating with me, please do not tell me or anyone else how the jury stands numerically or toward which decision the jury is leaning.

December 29, 2023

# Respectfully submitted,

# /s/ Kevin Gannon

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# **CERTIFICATE OF SERVICE**

I certify that all counsel of record who have consented to electronic service are being served with a copy of this document via the Court's CM/ECF system.

/s/ Kevin Gannon